

Nitrate Quality Control Procedure

Task

Check the accuracy of the nitrate test kit.

What You Need

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| <input type="checkbox"/> Nitrate Test Kit | <input type="checkbox"/> Goggles |
| <input type="checkbox"/> <i>Hydrology Quality Control Data Sheet</i> | <input type="checkbox"/> Distilled water |
| <input type="checkbox"/> 2 ppm Nitrate standard | <input type="checkbox"/> Surgical mask (if using powdered reagents) |
| <input type="checkbox"/> Latex gloves | <input type="checkbox"/> Chemical waste bottle |
| <input type="checkbox"/> Clock or watch | |

In the Lab

1. Fill out the top portion of the *Hydrology Quality Control Data Sheet*. In the *Nitrate* section fill in the name of the kit manufacturer and model.
2. Put on gloves and goggles.
3. Follow the directions in the nitrate test kit to measure the nitrate-nitrogen in the 2 ppm standard. If your test kit has directions for both a Low Range (0-1) and High Range (0-10) test, use the High Range directions for the calibration. Use the standard where it says 'sample water'. If using powdered reagents, use the surgical mask when opening these products. Use clock or watch to measure the time if your kit requires you to shake your sample.
4. Match the color of the treated sample water with a color in the test kit. Record the value as ppm nitrate-nitrogen for the matching color on the *Hydrology Quality Control Data Sheet*. Note: If you are not sure about the best matching color ask other students for their opinions.
5. Repeat steps 3 and 4 with fresh water samples. You will have a total of three nitrate-nitrogen measurements.
5. Calculate the average of the three measurements.
6. If your measurement is not + or – 1 ppm (high range) of the standard, repeat the measurement. If your measurement is still not within range, talk with your teacher about possible problems.
7. Put used chemicals in a waste container. Rinse glassware with distilled water. Cap all chemicals tightly.